



Naval UAV Overview Brief

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Naval UAVs and the Future



Naval UAVs will ultimately provide.....

- Pervasive Reconnaissance with Integral Targeting
- Organic Connectivity throughout the Battlespace

Here's how we get there.....



Naval UAV

Executive Steering Group Membership



Executive Committee

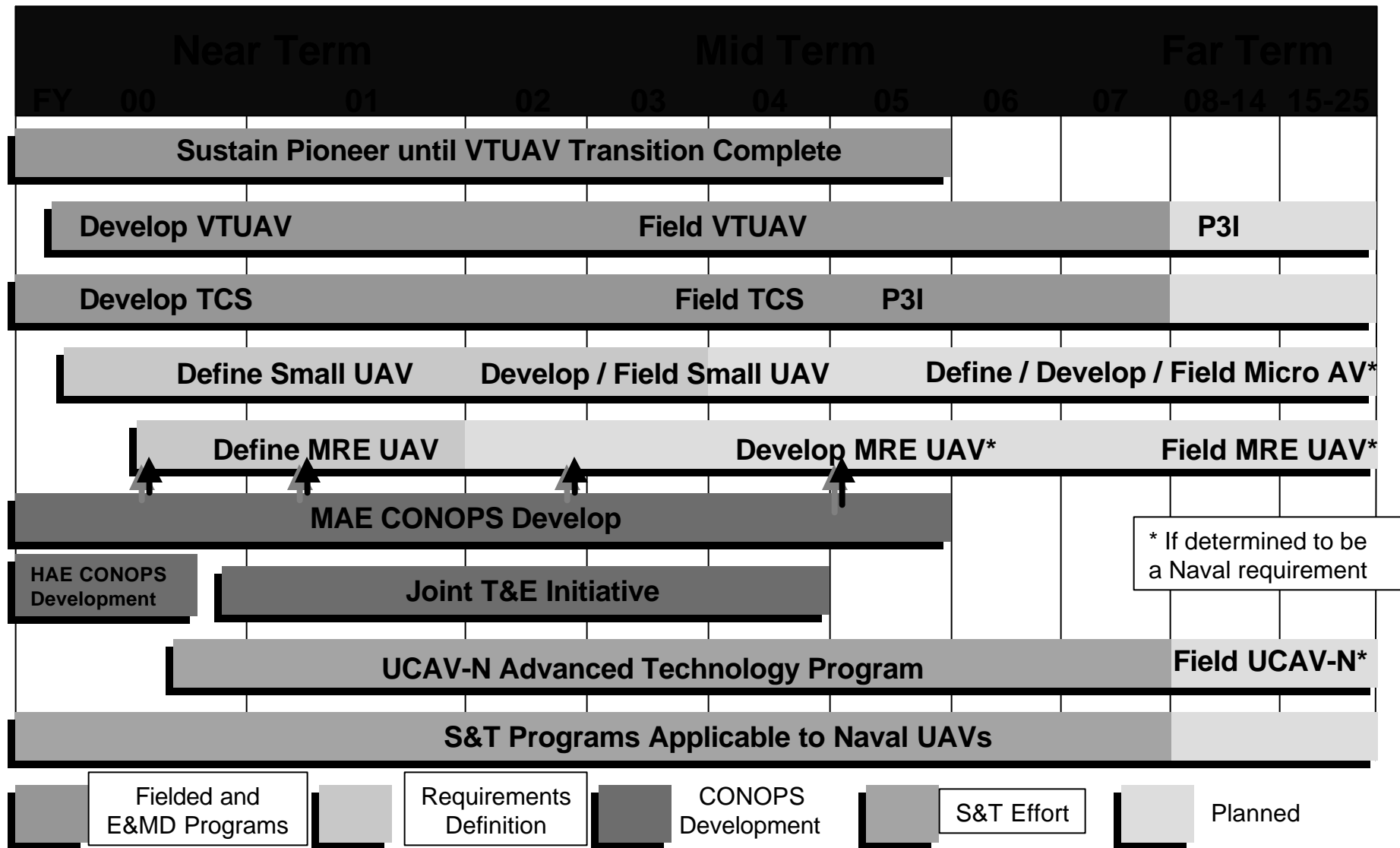
- N85 (chair)
- N86
- N88
- N6B
- HQMC (Aviation)
- Deputy CG MCCDC
- DASN (Air)
- PEO(W)

Advisory Committee

- N2
- N51
- N8B
- N80
- N81
- N83
- N87
- N096
- N091/CNR
- DASN(C4I)
- HQMC(C4I)
- HQMC DC/S PP&O
- HQMC DC/S P&R
- NAVAIR
- NAVSEA
- SPAWAR
- CG
- MARCORSYSCOM
- CINCLANTFLT N8
- NWDC
- NSAWC

Naval UAV Roadmap / Long Range Plan

(<http://www.exwar.org>)



Colors designate FY00 status

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Today's Naval UAV (fielded)...

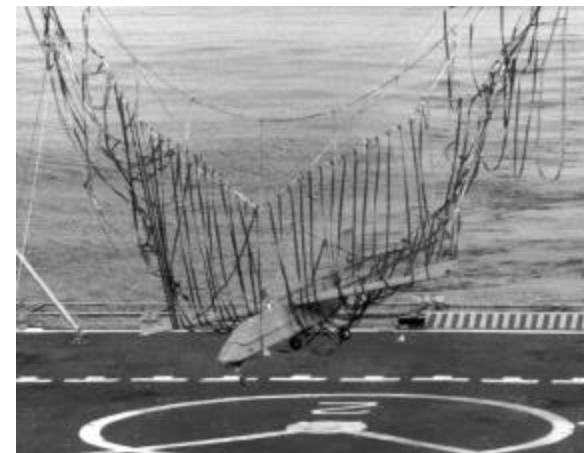
Pioneer TUAV



Characteristics

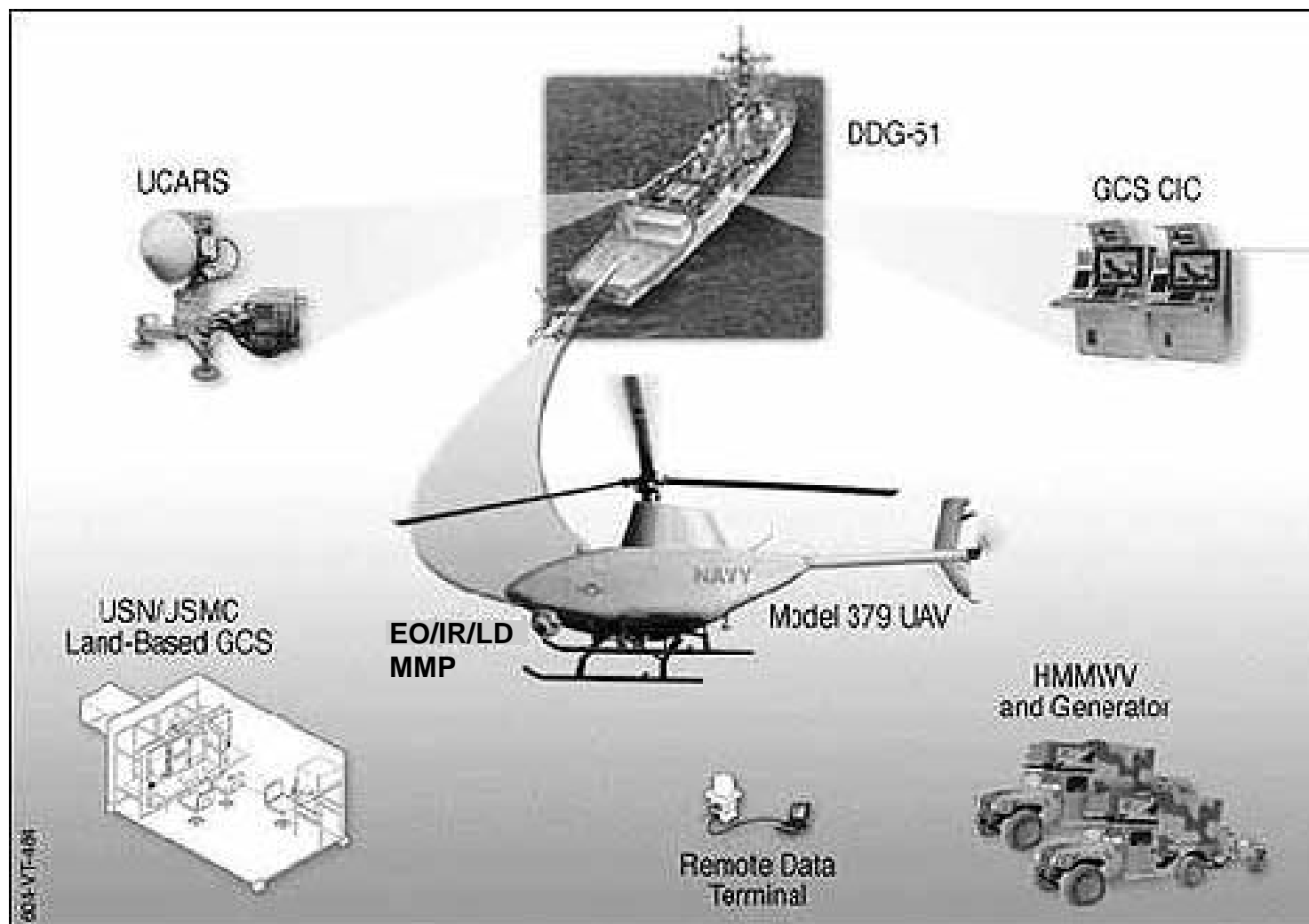
Endurance:	5 Hours
Radius of Action:	100 NM (185 KM)
Max Altitude:	15,000 FT
Payload:	Electro-Optical or Infrared
System:	5 Air Vehicles 1 Ground Control

- Navy: VC-6
 - Six systems in FY99
 - Decreased to 2 systems & contingency deployment capability in FY00
- USMC: VMU-1, VMU-2
 - Two systems (total) until replacement by VTUAV





Tomorrow's Naval UAV (in EMD)... Fire Scout VTUAV System



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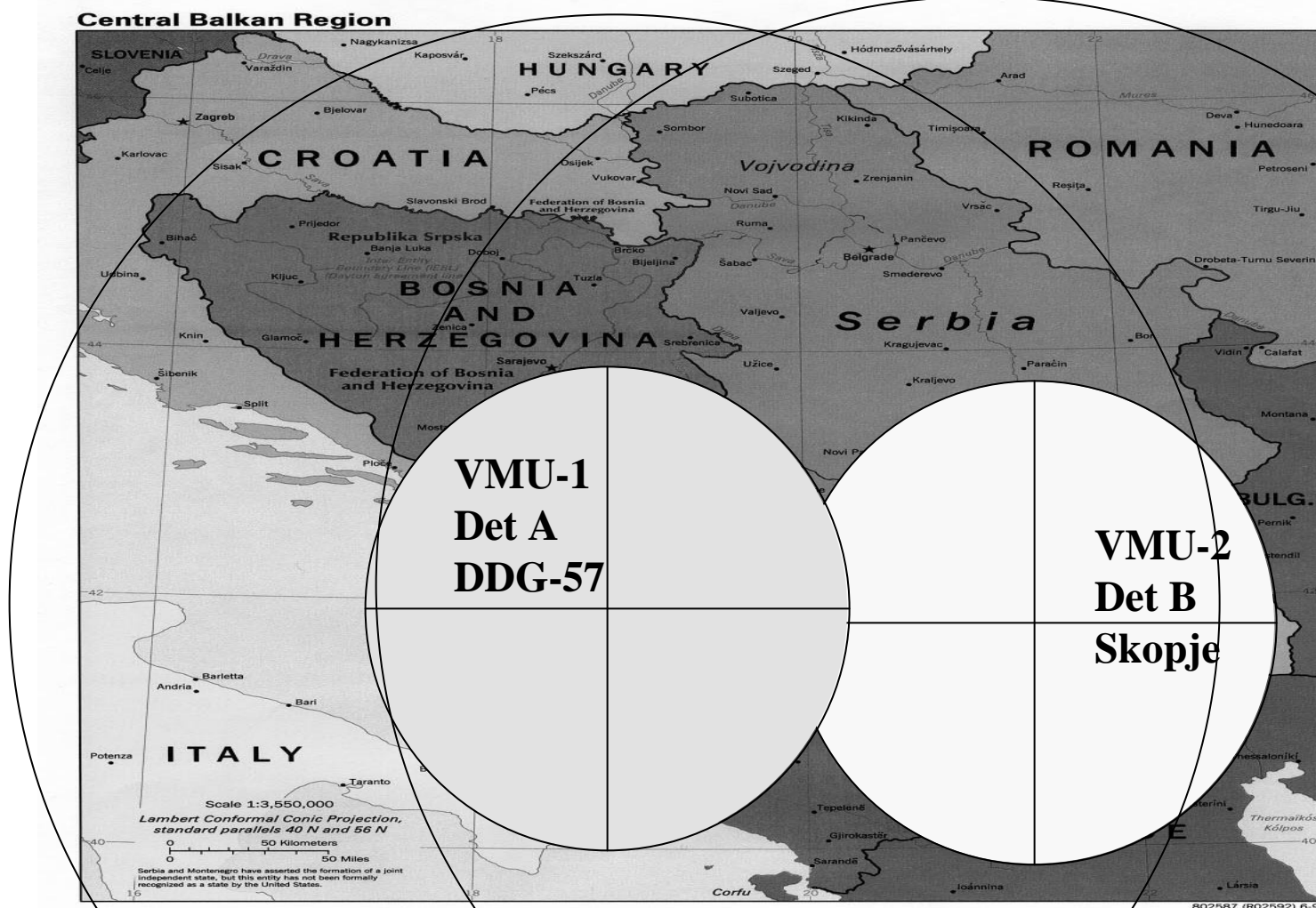
Firescout VTUAV Program Description



- Operate from All Air Capable Ships
 - Fully Marinized
 - Heavy Fuel Engine
- 12 Hours Continuous On-Station Coverage
- Provide 3 Hours On-Station @ 110 NM Range
- Provide EO/IR, Laser Designator, Voice Relay
- Target Location Error ≤ 25 m SEP
- Interoperability Through Tactical Control System
- Support Naval Operational Concepts
 - Forward....From The Sea
 - Operational Maneuver From The Sea



Firescout VTUAV Radius of Action

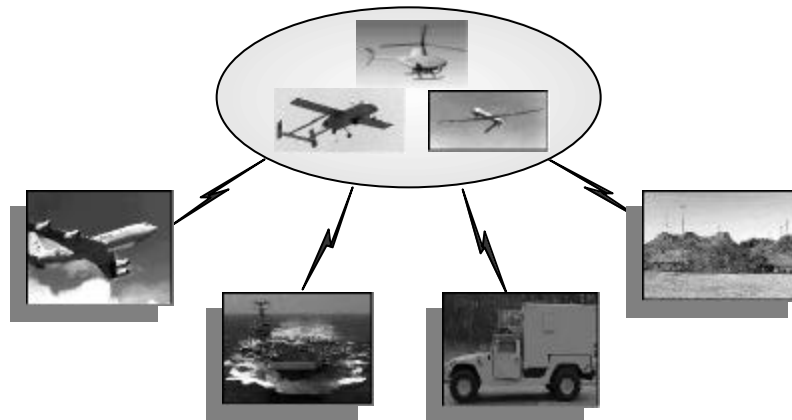


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Tactical Control System (TCS)...

The Key to Future UAV Interoperability



- TCS Provides:
 - UAV Command and Control Interoperability
 - Sensor and Payload Control
 - Rapid Target/Imagery Dissemination



The Tactical Control System:

- Software and software related hardware and ground support hardware (antennae, cabling)
- Controls unmanned aerial vehicles (TUAV, VTUAV, and future systems)
- Provides connectivity to identified C4I systems
- Objective requirement to support HAE systems



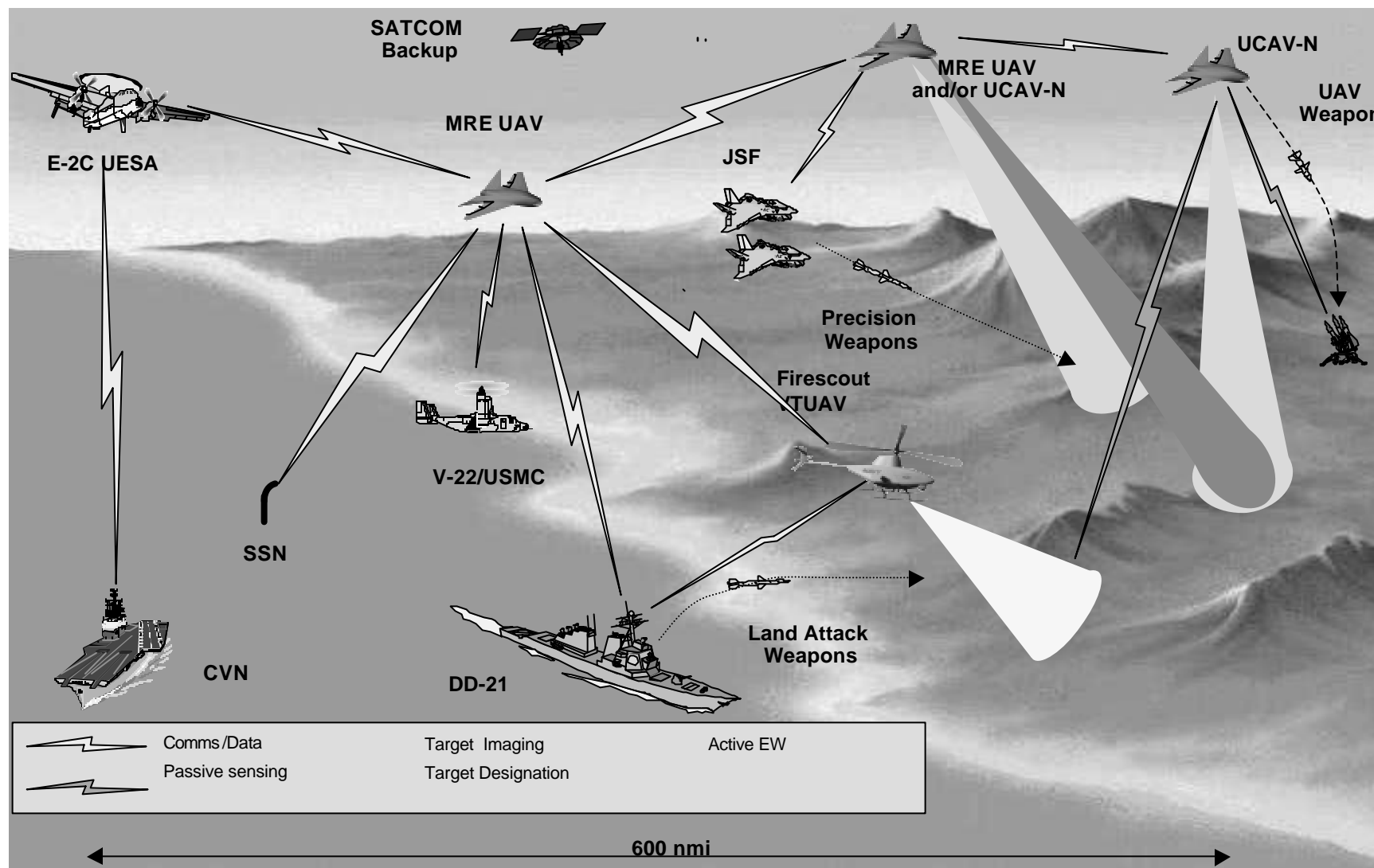
Future Naval UAV Systems....



- Multi-Role Endurance (MRE) UAV
- Naval UCAV
- Naval UAV Enabling Technologies
 - UAV Autonomy
 - UAV Propulsion



Notional Network Centric Warfare Vision for Multi-Role Endurance UAV



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Naval UCAV Advanced Technology Program



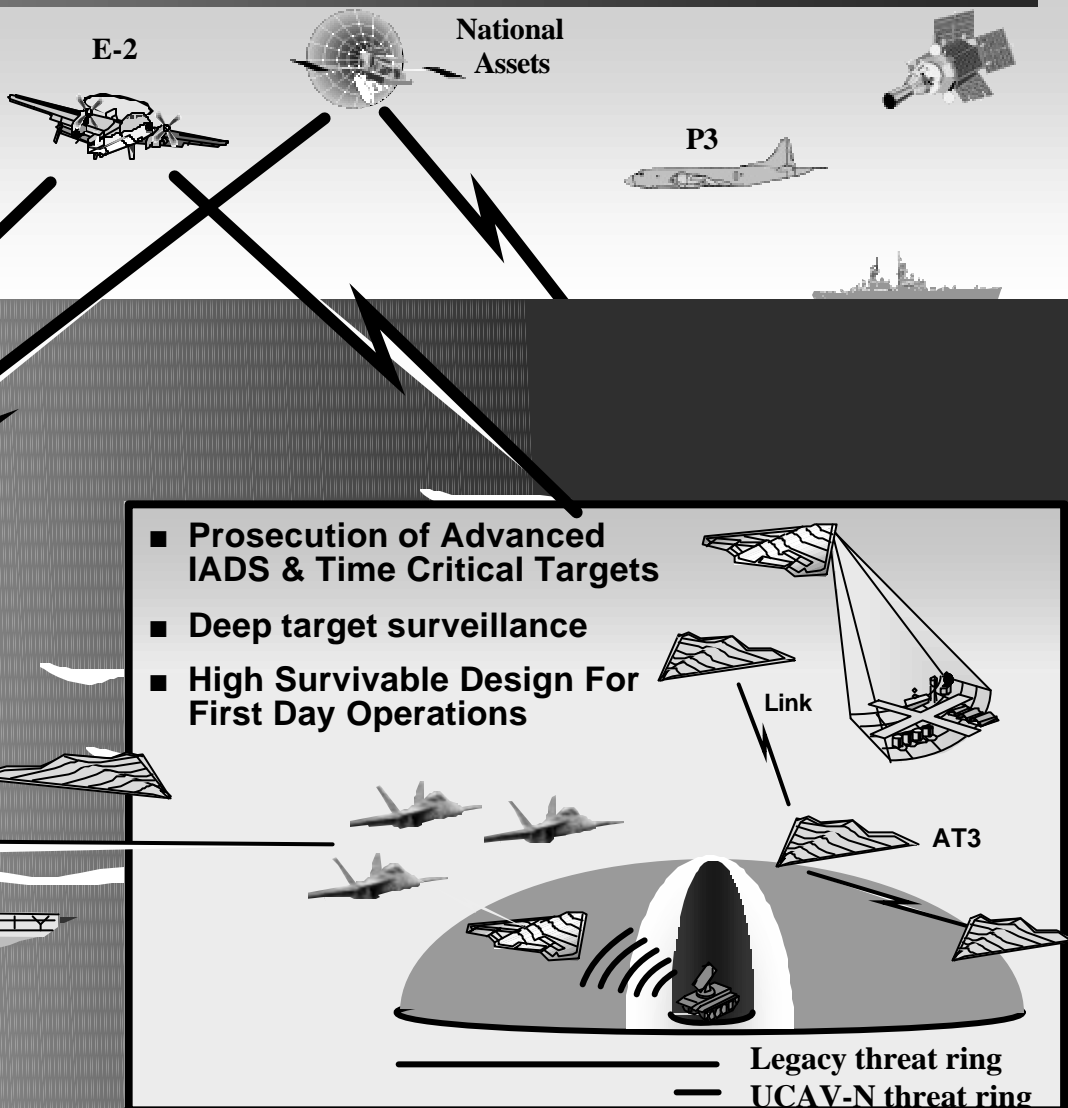
■ Revolutionary New Ship-based Tactical Airpower

- Force Enabler - Preemptive/Reactive SEAD
- Provide Persistent All Weather **Deep** Strike and **Surveillance**
- New CONOPS for High Risk or High Payoff Missions

■ New Paradigm in Aircraft Affordability

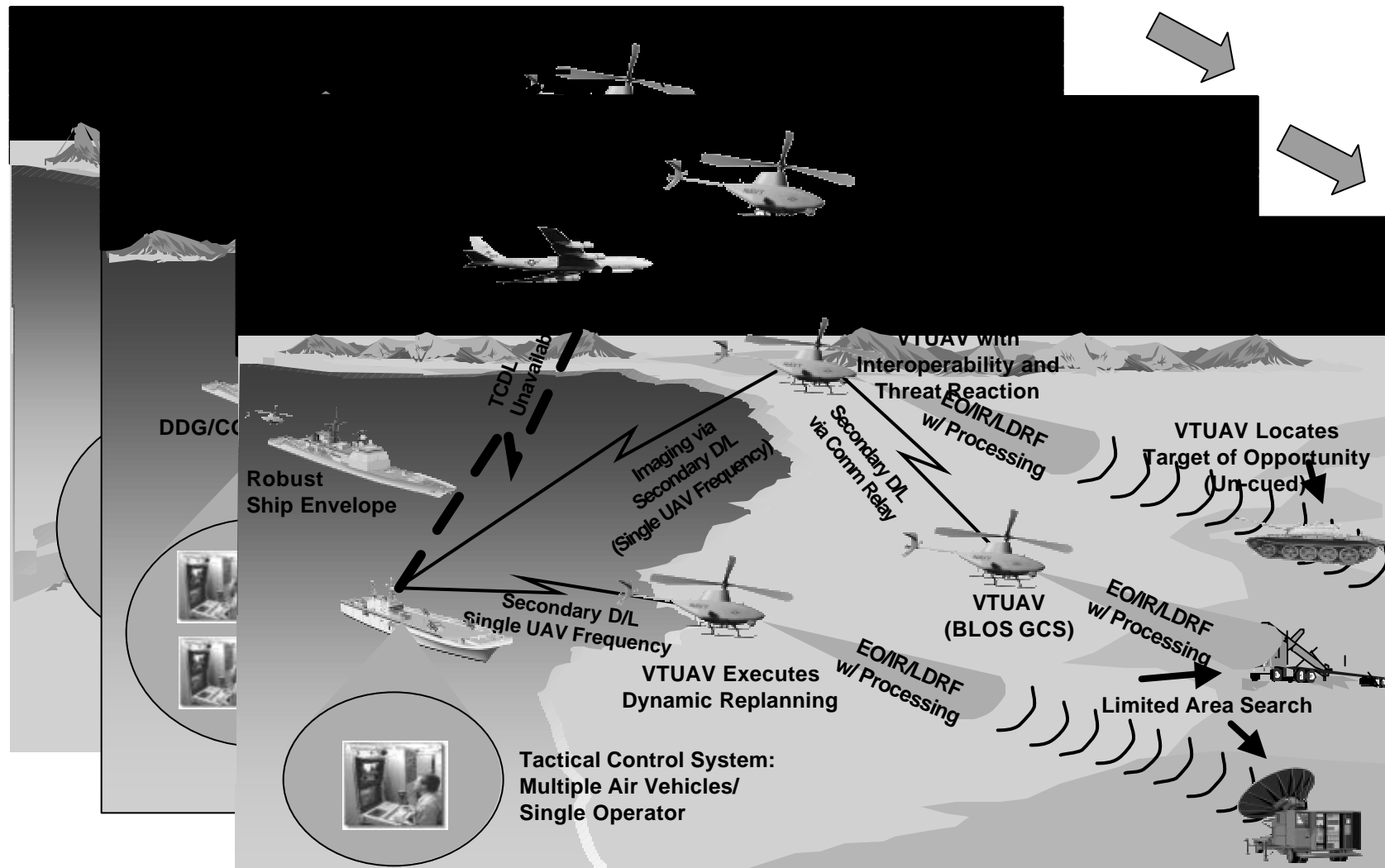
- Reduced Acquisition Costs (<1/3 JSF)
- Dramatically Lower O&S Cost (>50% Reduction)

■ Integrate in Naval Force Structure



Autonomous Operations FNC

UAV Autonomy Demonstrations



Autonomous
Operations

Autonomous Operations FNC UAV Propulsion Project

AFFORDABLE, ROBUST, HIGH PERFORMANCE TURBINE ENGINES

Naval Unique UAV Propulsion



IIHPTET



Conclusions

- Naval UAV Systems are Key Enablers for Time Critical Strike Ops and Network Centric Warfare
 - Sensing
 - Data Dissemination
- Robust Naval UAV System Currently in EMD
 - Firescout VTUAV with Tactical Control System
 - IOC FY-03
- Future Naval UAV/UCAV System Requirements Definition and Advanced Technology Work Underway
 - MRE UAV
 - DARPA/Navy UCAV
 - Naval UAV Enabling Technologies



<http://uav.navair.navy.mil>



Unmanned Aerial Vehicles

PMA 263

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NEW as of:
6 July 2000



PIONEER


VTUAV

**TACTICAL
CONTROL SYSTEM**


**MULTI-ROLE
ENDURANCE**

SMALL UAVs


MEDIUM RANGE



PIONEER
UNMANNED
AERIAL
VEHICLES INC.



TCS



NORTHROP
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Questions?

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